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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/786,740	03/14/2005	Robert Arthur Sawhill	A34089 PCT	5126
21003	7590	06/05/2006	EXAMINER	
BAKER & BOTTS 30 ROCKEFELLER PLAZA 44TH FLOOR NEW YORK, NY 10112			TANG, MINH NHUT	
			ART UNIT	PAPER NUMBER
			2829	

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/786,740	SAWHILL ET AL.	
	Examiner	Art Unit	
	Minh N. Tang	2829	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/11/01; 2/7/02</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on June 11, 2001 and February 07, 2002 are considered by the examiner. However, the documents in the Form PTO-1449 filed on February 07, 2002 are crossed out because they are duplicated with the documents in the Form PTO-1449 filed on June 11, 2001.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: reference number "10" (Fig. 1). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The Preliminary Amendment filed on March 08, 2001 has been entered.

4. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

Content of Specification

- (a) Title of the Invention: See 37 CFR 1.72(a) and MPEP § 606. The title of the invention should be placed at the top of the first page of the specification unless the title is provided in an application data sheet. The title of the invention should be brief but technically accurate and

descriptive, preferably from two to seven words may not contain more than 500 characters.

- (b) Cross-References to Related Applications: See 37 CFR 1.78 and MPEP § 201.11.
- (c) Statement Regarding Federally Sponsored Research and Development: See MPEP § 310.
- (d) The Names Of The Parties To A Joint Research Agreement: See 37 CFR 1.71(g).
- (e) Incorporation-By-Reference Of Material Submitted On a Compact Disc: The specification is required to include an incorporation-by-reference of electronic documents that are to become part of the permanent United States Patent and Trademark Office records in the file of a patent application. See 37 CFR 1.52(e) and MPEP § 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text were permitted as electronic documents on compact discs beginning on September 8, 2000.

Or alternatively, Reference to a "Microfiche Appendix": See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.
- (f) Background of the Invention: See MPEP § 608.01(c). The specification should set forth the Background of the Invention in two parts:
 - (1) Field of the Invention: A statement of the field of art to which the invention pertains. This statement may include a paraphrasing of the applicable U.S. patent classification definitions of the subject matter of the claimed invention. This item may also be titled "Technical Field."
 - (2) Description of the Related Art including information disclosed under 37 CFR 1.97 and 37 CFR 1.98: A description of the related art known to the applicant and including, if applicable, references to specific related art and problems involved in the prior art which are solved by the applicant's invention. This item may also be titled "Background Art."
- (g) Brief Summary of the Invention: See MPEP § 608.01(d). A brief summary or general statement of the invention as set forth in 37 CFR 1.73. The summary is separate and distinct from the abstract and is directed toward

the invention rather than the disclosure as a whole. The summary may point out the advantages of the invention or how it solves problems previously existent in the prior art (and preferably indicated in the Background of the Invention). In chemical cases it should point out in general terms the utility of the invention. If possible, the nature and gist of the invention or the inventive concept should be set forth. Objects of the invention should be treated briefly and only to the extent that they contribute to an understanding of the invention.

- (h) Brief Description of the Several Views of the Drawing(s): See MPEP § 608.01(f). A reference to and brief description of the drawing(s) as set forth in 37 CFR 1.74.
- (i) Detailed Description of the Invention: See MPEP § 608.01(g). A description of the preferred embodiment(s) of the invention as required in 37 CFR 1.71. The description should be as short and specific as is necessary to describe the invention adequately and accurately. Where elements or groups of elements, compounds, and processes, which are conventional and generally widely known in the field of the invention described and their exact nature or type is not necessary for an understanding and use of the invention by a person skilled in the art, they should not be described in detail. However, where particularly complicated subject matter is involved or where the elements, compounds, or processes may not be commonly or widely known in the field, the specification should refer to another patent or readily available publication which adequately describes the subject matter.
- (j) Claim or Claims: See 37 CFR 1.75 and MPEP § 608.01(m). The claim or claims must commence on separate sheet or electronic page (37 CFR 1.52(b)(3)). Where a claim sets forth a plurality of elements or steps, each element or step of the claim should be separated by a line indentation. There may be plural indentations to further segregate subcombinations or related steps. See 37 CFR 1.75 and MPEP § 608.01(i)-(p).
- (k) Abstract of the Disclosure: See MPEP § 608.01(f). A brief narrative of the disclosure as a whole in a single paragraph of 150 words or less commencing on a separate sheet following the claims. In an international application which has entered the national stage (37 CFR 1.491(b)), the applicant need not submit an abstract commencing on a separate sheet if an abstract was published with the international application under PCT Article 21. The abstract that appears on the cover page of the pamphlet published by the International Bureau (IB) of the World Intellectual Property Organization (WIPO) is the abstract that will be used by the USPTO. See MPEP § 1893.03(e).

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- (l) Sequence Listing. See 37 CFR 1.821-1.825 and MPEP §§ 2421-2431. The requirement for a sequence listing applies to all sequences disclosed in a given application, whether the sequences are claimed or not. See MPEP § 2421.02.

5. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

6. Claims 1-19 are objected to because of the following informalities:

a/ in claim 1, line 8, "an integrated circuit" should be -- the integrated circuit --.

b/ claims 2-19 are objected since they directly/indirectly depend on objected base claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claim 1, 10-15 and 17-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Boyette, Jr. et al (U.S.P. 6,023,171).

As to claim 1, Boyette, Jr. et al. (hereinafter, Boyette) disclose, in Figs. 2 and 3, an interface device comprising a body member (38), a movable member (40) mounted on the body member (38) for movement with respect to the body member (38) and a

number of elongate contact members (28, 30) mounted on the movable member (40), for movement with the movable member; each elongate contact member (28, 30) comprising a contact end (48, 50), adapted to contact a bond pad of the integrated circuit to be tested (not shown), and a body portion (i.e., upper end portions connected to movable member 40), the central axis of the body portion (upper end portions) and the contact end (48, 50) being substantially parallel (i.e., coincide) to each other.

As to claim 10, Boyette disclose in Figs. 2 and 3, a printed circuit board (not shown) to which the end of the contact member (30) opposite to the contact end (50) is coupled, and the printed circuit board being adapted to permit testing equipment to be coupled to the printed circuit board.

As to claim 11, Boyette disclose in Fig. 2, the movable member (40) is coupled to the body member (38) by an elastically flexible member (i.e., the leftmost part connecting the movable member 40 and the body member 38).

As to claim 12, Boyette disclose in Fig. 2, the body member (38), the elastically flexible member (leftmost part) and the movable member (40) are formed from a single piece of material (32).

As to claim 13, Boyette disclose in Fig. 2, portions of the single piece of material (32) are removed to form the elastically flexible member (leftmost part).

As to claim 14, Boyette disclose in column 4, lines 28-32, the body member (38), the elastically flexible member (leftmost part) and the movable member (40) are fabricated from a metal material (beryllium copper alloy).

As to claim 15, Boyette disclose in Fig. 2, the elastically flexible member (leftmost part associated with portions of members 38, 40) is in the form of an elastic beam which is generally U-shaped.

As to claim 17, Boyette disclose in Fig. 2, the body member (38) encircles the movable member (40).

As to claim 18, Boyette disclose in Figs. 2 and 3, the movable member (40) defines an aperture (52, 56) into which the contact members (28, 30) protrude.

As to claim 19, Boyette disclose in Fig. 2, an excitation device (i.e., mechanism for moving carriage 26 associated with the bifurcation of the flexible portion of mounting block 32) to move the movable member (40) with respect to the body member (38).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 2-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Boyette (U.S.P. 6,023,171) in view of Chism (U.S.P. 5,015,947).

As to claim 2, Boyette disclose all the limitations in the claim except for a spring shaped portion located between the contact end and the body portion. Chism discloses, in Fig. 1, a probe (10) comprising a contact end (16), a body portion (12) and a spring shaped portion (14) located between the contact end (16) and the body portion (12). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the contact members of Boyette by providing at least two turns of the spring shaped portion as taught by Chism in order to allow reliable, low resistance electrical contact between the tip of the contact member and the pad of the device under test.

As to claim 3, Chism discloses in Fig. 1, the spring shaped portion (14) comprises a first portion (i.e., portion connected to the contact end 16) and a second portion (i.e., portion connected to the body portion 12), the portions being at an angle to each other and to the body portion (12) and the contact end (16).

As to claims 4 and 5, Chism discloses in Fig. 1, the angle (i.e., angle between two adjacent turns) between the first and the second portions is approximately 45°/60° to 135°.

As to claim 6, Chism discloses in Fig. 1, the first portion (portion including bend 18 connected to the contact end 16) is longer than the second portion (portion

connected to the body portion 12) so that the central axis of the contact end (16) is not coincident with the central axis of the body portion (12).

As to claim 7, Chism discloses in Fig. 1, the central axis of the contact end (16) and the central axis of the body portion (12) are separated by a distance approximately equal to 1.5 times the diameter of the body portion (12).

As to claim 8, Chism discloses in Fig. 1, the first portion (portion connected to the contact end 16) is coupled to the contact end (16) and the second portion (portion connected to the body portion 12) is coupled to the body portion (12).

12. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boyette (U.S.P. 6,023,171) in view of Chism (U.S.P. 5,015,947) as applied to claim 2 above, and further in view of Chen (U.S.P. 6,298,312).

As to claim 9, Boyette in view of Chism disclose all the limitations in the claim except for the contact end and the spring portion are tapered towards the end of the contact end. Chen discloses, in Fig. 4, a probe (10) having a contact end (L3), a spring portion (L1, L2), the contact end (L3) and the spring portion (L1, L2) being tapered toward the end of the contact end (L3). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the probe of Boyette by making the probe being tapered from the spring portion to the end of the contact end as taught by Chen in order to contribute to or affect probe needle force applied on the pad of the device under test.

13. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boyette (U.S.P. 6,023,171).

As to claim 16, Boyette, in Fig. 2, disclose all the limitations in the claim except for the movable member is coupled to the body member by a number of elastically flexible members. Boyette, in Fig. 4, disclose a movable member (72) coupled to a body member (i.e., the two uppermost part) by a number of elastically flexible members (74). It would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the interface device of Boyette (Fig. 2) by providing the interface device as taught by Boyette (Fig. 4) so that it would provide a greater degree of resilience of each probe point without significantly enlarging the size of the interface device.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:


McGahey et al.	3,702,439	Low Impedance Fixed Point Test Probe.
Lenz	4,177,425	Multiple Contact Electrical Test Probe Assembly.
Higgins et al.	5,923,178	Probe Assembly And Method For Switchable Multi-DUT Testing Of Integrated Circuit Wafers.

Communication

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh N. Tang whose telephone number is (571) 272-1971. The examiner can normally be reached on M-F (7:00-3:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ha T. Nguyen can be reached on (571) 272-1678. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


MINH NHUT TANG
PRIMARY EXAMINER
5/26/06